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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/914,969	09/06/2001	Randall S. Estep	79493-PCT	6639
24628	7590	07/15/2004	EXAMINER CHANG, KENT WU	
WELSH & KATZ, LTD 120 S RIVERSIDE PLAZA 22ND FLOOR CHICAGO, IL 60606			ART UNIT 2673	PAPER NUMBER 9
DATE MAILED: 07/15/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/914,969

Applicant(s)

ESTEP, RANDALL S.

Examiner

Kent Chang

Art Unit

2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hales (US Patent No. 6,360,182) in view of Larson (US Patent No. 6,066,129).

Hales discloses an underwater diving mask for use by a diver in an underwater diving environment, the diving mask comprising: a viewing portion defined by the diver's face and a lens; a visual display device proximate the viewing portion to provide visual images to the diver; a computer system disposed in a portion of the mask and operatively coupled to the visual display device; operation control switches or other types of input devices (114, see column 9 lines 20-24, and Fig.3). Hales is silent in using a speech recognition system for data inputting.

However, Larson teaches using a speech recognition system for data inputting in a head-up display. The device of a Larson includes a speaking chamber configured to sealingly engage a portion of the user's mouth to permit the user to speak; a sound transducer (inherent from the microphone and the sound to signal converter) located proximal the speaking chamber; the computer system, the viewing portion and the

speaking chamber sealing isolated from the outside environment; and the computer system receiving electrical signals produced by the sound transducer and configured to recognize and identify the electrical signals as spoken words of the user, the identified spoken words providing input to the computer; to direct the computer system to provide visual images to the visual display in response thereto to facilitate hands-free operation of the user (see column 14 line 40 to column 15 line 5). Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to use a speech recognition system for data inputting (as recited in claims 1 and 6-8) as taught by Larson in the device of Hales so as to provide a fast, easy to operate, and hands-free input device.

Consider claims 2 and 3. It would have been obvious for one of ordinary skill in the art at the time of the invention that the computer system in the diving mask of Hales as modified is operatively coupled to the display device by short length of cabling so that no external cabling extends from the diving mask in a region defined by the diver's head portion to a part of the diver located away from the diver's head, or such that no wiring or tether external to the diving mask is required so that the user is not obstructed by the display and the computer.

Consider claims 4 and 5. It would have been obvious for one of ordinary skill in the art at the time of the invention to use a sound transducer selected from the group consisting of a microphone, crystal microphone, piezoelectric transducer, throat/larynx transducer and vibration transducer; a computer system selected from the group consisting of a computer, microprocessor, RISC processor, single-chip computer,

single-board computer, controller, micro-controller and discrete logic computer; a display device selected from the group consisting of a liquid crystal display, LED display, electro-fluorescence display, gas plasma display, prism-type optic display, prismatic projection system and cathode ray tube; a non-volatile storage operatively coupled to the computer system, the non-volatile storage selected from the group consisting of a ROM, PROM, EPROM, flash memory, optical memory, static memory, bubble memory, memory sticks and hard disk memory since it merely depends on the availability of the elements and the system configuration and cost requirement. It would have been obvious for one of ordinary skill in the art at the time of the invention that any of the above elements would perform equally well.

Furthermore, it would have been obvious for one of ordinary skill in the art at the time of the invention to include other well known methods for data inputting and computer operation such as menu selection, digital camera control applications, life support applications, general purpose applications, gyroscopic/inertial sensor applications, transmitter and receiver applications and power management applications as recited in claims 9-14 so as to enable the user to perform different task and provide more choices to the user to control the operation of the computer.

Claims 15-18 recite similar limitations as claims 1-14, thus note the rejections above.

Response to Arguments

3. Applicant's arguments filed 6/7/04 have been fully considered but they are not persuasive.

As to applicant's argument regarding the use of a personal computer, note that the device of Hales includes a microcomputer and data inputting for performing various functions including display control, data acquisition, data or program downloading, etc. It would have been obvious for one of ordinary skill in the art at the time of the invention to choose a portable computer to perform any known functions in the device of Hales. In fact, it has been known in the art that using voice data inputting could have further reduced the size of the computer by eliminating the need of other input devices such as a keyboard, but it would raise the manufacturing cost of the system.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

The remainder of the pertinent topics for argument are present in the appropriate rejections above.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kent Chang whose telephone number is 703-305-4824. The examiner can normally be reached on Monday to Thursday from 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached at 703-305-4938.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

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Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 305-9700.



Kent Chang
Primary Examiner
Art Unit 2673

Kc

7/13/04